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Serials

THE OPHTHALMIC RECORD

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The March number of THE OPHTHALMIC RECORD will contain, among others, an original article by A. B. Hale, M. D., "Confessions of a Traveler;" one by Frank C. Todd, M. D., "Improved Tendon Tucker." There will also appear editorials, society reports, abstracts and personals, and items of interest to the profession.

THE RECORD particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles, when accepted, are contributed to the RECORD exclusively. Illustrative cuts will be made at the expense of the journal, and proofs for correction will be sent to authors when desired. Reprints with covers will be furnished at cost. The RECORD will be issued monthly, and each number will contain about 54 pages of reading matter.

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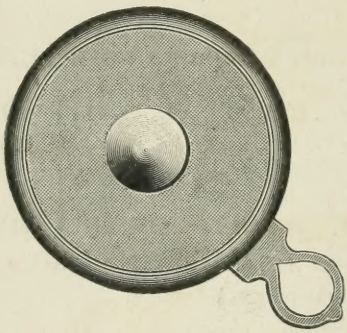

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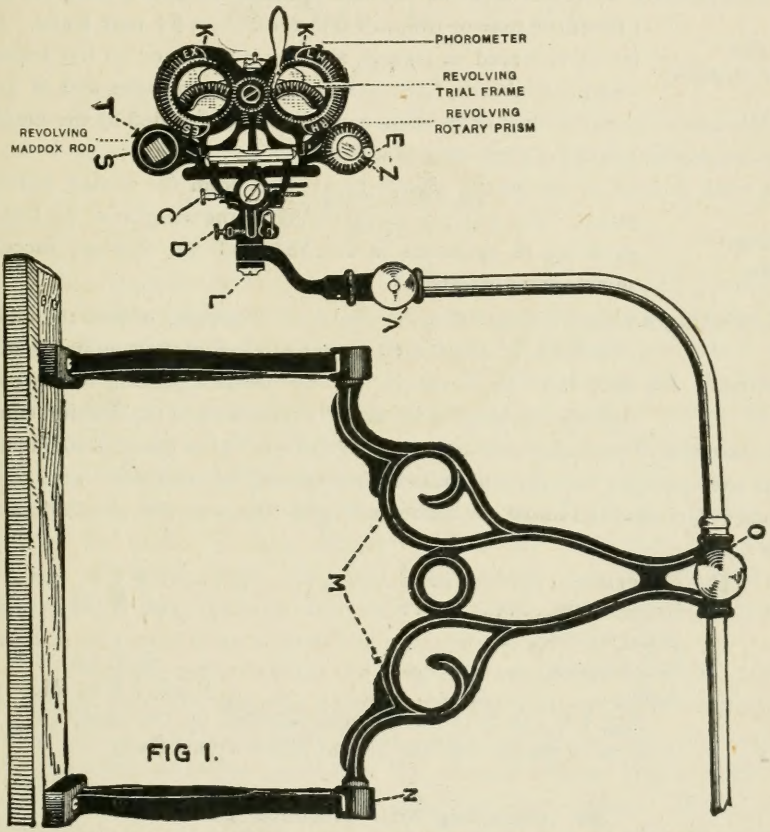

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THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS
OF OPHTHALMOLOGY.

VOLUME XII. No. 2. CHICAGO, FEBRUARY, 1903. NEW SERIES.

ORIGINAL ARTICLES.

THE VALUE OF SALICYLATE OF SODIUM IN LARGE DOSES IN INFLAMMATORY EYE DISEASES.

BY DR. H. GRADLE.
CHICAGO.

The valuable report by Dr. Gifford in the December number of the RECORD induces me to publish my experience with the same drug. It agrees, on the whole, with that of Gifford, but like him I have reason to believe that the value of the agent is not as much appreciated as it deserves. While nearly all text-books recommend salicylates in episcleritis, iritis, and a few other inflammations, there is, as a rule, no definite statement what and how much the less experienced observer can expect from its use. Reference, however, should be made to very definite reports by Chisholm in 1880, (Arch. of Ophth. page 166) and Friedenwald in 1895 (Maryland Medical Journal, Dec. 7), both of whom claim more for its abortive influence in iritis than I have been able to confirm.

In dealing with diseases the course of which is subject to more or less fluctuation, and the duration of which is not quite constant, an influence can be claimed for a special agent only if the latter changes with tolerable regularity the clinical course within a short time compared with the ordinary length of the disease. When the drug must be given for a long time its influence is also strikingly shown if interruption in its use coincides with protraction, whereas its renewed administration again leads to improvement. All this applies to salicylate of sodium properly given. But unfortunately there are occasional unaccountable exceptions to its control of the diseases which it usually influences. On the other hand I have seen

a few instances (the case of keratitis quoted, and various cases of persistent cyclitis and sympathetic disease) which, as judged by their past history, would probably never have ended in recovery without salicylate.

Like Gifford I must emphasize the necessity for large doses. Small quantities do not act proportionately less, but are simply inert. An adult requires twenty grains at least 4 to 5 times a day, while if 25 grains can be tolerated 5 to 6 times a more decisive influence is quickly obtained. When such large doses produce no effect upon the disease within 48 to 60 hours I have found it useless to continue the drug. By using tablets (5 gr.), coated if desired, the stomach is almost never irritated. The limit to its increasing or continued use is generally set by tinnitus or a feeling of confusion. I have learned to continue it in sensitive subjects intermittently, omitting the morning doses and increasing in the afternoon. I have once seen a mild delirium produced by 12 gr. doses in an 8-year-old child. In rare instances annoying, but not dangerous, prostration prevents its continuance. In urgent instances the patient may have to submit to these various disturbances in order to get the benefit of the agent.

My experience can be summarized as follows:

Episcleritis varies very much in severity and duration. In the RECORD of October, 1902, I have described a class of cases which would commonly pass as episcleritis, under the name of *subconjunctival inflammation*. Both in this form as well as in typical episcleritis I have only given salicylates after the customary local treatment had proven insufficient. A few times the disease disappeared within 48 hours; as a rule it took one to two weeks, although improvement began promptly. In less than one-third of the cases there was no appreciable influence. A striking instance was that of a 15 year old girl who had a very large episcleritic swelling due to an injury with a pin three weeks previously. For two weeks she took salicylates insufficiently, not exceeding 60 grains per day. As the patch became more inflamed and tender I insisted on larger doses. By mistake she took 150 grains that afternoon, and was considerably prostrated. But on returning two days later there was a striking improvement. By persisting in the use of about 100 grains from noon till night she got well in three weeks.

In deep *scleritis*, which I do not see often, salicylate has always proven of influence temporarily. But, with a few exceptions, it did not lead to a speedy cure, and did not even prevent occasional

exacerbations. Yet when the patients stopped it they did not get along as well.

The drug has a striking effect in the minute *superficial corneal infiltrates,* which sometimes persist tantalizingly after small traumatisms, (cinders). Of course I have only used it after first employing a shade, atropin, yellow ointment, etc., with insufficient success. The remarkable influence of large doses of salicylate upon rebellious manifestations of *phlyctenular keratitis* I have described at the meeting of the Am. Med. Ass. in 1900. My experience since has confirmed its utility, but also its occasional failure in a small minority of instances. I find it necessary to give at least 7½ grains per dose in children of about 4 years of age.

In *syphilitic interstitial keratitis* I have not seen any results.

In *non-syphilitic keratitis,* varying from superficial to deep interstitial forms, I have used it extensively, but mostly with negative results. Perhaps the most pronounced benefits were seen in the diffuse keratitis of scrofulous children, especially in those who had had the history of previous phlyctenular attacks. A few instances of keratitis in gouty subjects were rapidly influenced and cured. A striking illustration of salicylic influence on a rare type of corneal disease is the following, which resembles Trousseau's description of keratitis due to gouty deposits:

Nodular sclero-keratitis. Miss G., 45 years. Hitherto healthy. No history of syphilis or gout. Since 1½ years nearly steady soreness and redness of right eye with fluctuations and sometimes severe pain. Treatment by competent men without much, if any, result. L. eye normal; slightly myopic. R. eye moderate diffuse ciliary injection, and irritability. On temporal side a small elevated vascular nodule in the sclera, running into the cornea. In the substance of the cornea four slightly yellowish gray discrete nodules, of about pin-head size, supplied with blood vessels. Entire cornea hazy, but surface normal. Pupil fairly atropinized. Scarcely any ophthalmoscopic reflex. V. = fingers at 15 feet. Field normal.

After indifferent local treatment for 2 days (atropin, yellow ointment, practically the same as previous treatment) large doses of salicylates brought on a subjective as well as objective improvement within three days. She left the city on the twelfth day with the nodules in cornea and sclera very much reduced in size, and the eye nearly pale. Five years later, on returning for other reasons, I learned that the continuance of salicylate had completely quieted the eye within a few weeks, and that it had remained quiet

during all this time. The cornea, however, had remained uniformly clouded and the sight had not improved.

In ordinary typical *iritis* the drug has been a disappointment to me. It benefits many patients by reducing the severity of the symptoms and probably hastening the course, no matter what the etiology. But I have not been able to abort the disease in a specific manner, even in rheumatic subjects. The promptest effect I have seen in diabetic iritis, the duration of which is very variable. In a few atypical chronic or relapsing instances of inflammatory iritis, of unknown origin, I have, however, seen rapid recovery.

In *typical,* so-called *spontaneous cyclitis* I have only had negative results. But in atypical forms of cyclitis, those of uncertain duration and usually of protracted course, salicylate has an almost specific influence. This applies, for instance, to cyclitis secondary to and persisting after corneal suppuration, and the inflammation of degenerated eyes with old retinal detachment. Especial satisfaction can be obtained in traumatic cyclitis. Too much must not be expected. A plastic cyclitis with rapid malignant course can scarcely be influenced. But in the inflammation following injuries, with diffuse vitreous opacity, I have so often seen a speedy improvement and recovery that I cannot doubt the remarkable control of the drug, although each individual case is not an absolute proof, on account of the uncertainty of the prognosis. Like Gifford, I have within the past year used salicylate as a prophylactic after cataract operations. Whenever the symptoms on the third or fourth day exceeded the ordinary reaction to the operative traumatism I have found that salicylate will keep the inflammation in check, so that the healing, while more protracted than in perfectly normal instances, was not disturbed by any violent cyclitis. My experience, however, has not been large. In cyclitis of a mild degree, but persisting long after traumatism, it is possible to recognize more definitely the value of the agent. A good illustration is the following:

Mr. J. had a steel chip extracted from the vitreous by the late Dr. E. W. Smith, in January, 1891. The wounded lens became absorbed but the eye was never perfectly quiet. In January, 1892, a small iridectomy was done since the tough membraneous cataract could not be satisfactorily dealt with. Four months later he came under my care with the complaint that the eye did not stay pale, but became blood-shot and irritable, and often very painful. I found

the R. eye with marked ciliary injection, especially downward, corresponding to the site of a couple of minute corneal infiltrates. T — 2. Cornea otherwise clear. Pupil dilatable, but partially adherent. A small coloboma nearly closed. Dense secondary cataract. V. = fingers at one foot, with perfect localization. Within three days' use of salicylate the eye began to quiet. In three and a half weeks it had entirely lost its injection and irritability, which had persisted a little longer than the minute corneal infiltrates above referred to. During the following month there were again a few spells of transient irritability. The salicylate, however, was continued for several weeks after apparent perfect recovery. One year later he returned with the history of an eye perfectly quiet in spite of exacting mechanical work. Since atropin, rest and general hygienic management had all been properly directed by his previous attendant, the permanent recovery could only be attributed to the salicylate of sodium.

Sympathetic inflammation is very rare in my observation. One can not tell whether salicylate of sodium can help to prevent it, but I have at least used it with that hope, in all instances in which it seemed permissible to attempt to save the injured eye. I have seen at least three instances in which the sympathetically affected eye, previously hopelessly damaged as to sight, became quiet promptly after long suffering. An exceptionally lucky result which I can only attribute to this treatment is the following:

Traumatic irido-cyclitis with sympathetic irido-cyclitis of other eye cured. (Case of Dr. D. Sallinger, with whom I saw the man in consultation, and to whose courtesy I owe these notes.) R. R., age 43, struck by bar of iron early in November, 1891. After 48 hours of pain the eye felt natural and he resumed work. Four weeks later sudden severe pain and blindness. The following day, December 6th, he applied for treatment.

R. eye normal. V. 20/20; L. eye T —, tender, intense ciliary injection. Large prolapse of iris at upper inner corneal margin. Cornea clear. Large hypopyon. Pupil small and adherent, yielding poorly to atropin. V

Since a fair recovery was not improbable, and the history of the (secondary) infection only dated back thirty-six hours, the patient's desire to save the eye was acceded to with some reserve. Atropin, hot applications, darkness, mercurial inunction, and salicylate (100 grs. per day and upward) were ordered. The hypopyon diminished

within 24 hours, and was gone within two weeks, revealing now some punctate deposits. The pupil now was fairly wide, and the vitreous opacities were clearing. At the end of the third week. V. was 10/40, the eye nearly pale but slightly irritable. The iris prolapse was completely cicatrized.

On January 20th (the sixth week after the beginning of the cyclitis) V. had reached 10/30; the eye was practically pale though slightly irritable; the punctate deposits almost gone, the vitreous nearly clear; the fundus normal. But that day the other (right) eye had been obscured transiently. Yet examination showed it normal in every respect. The following day sudden outbreak of severe irido-cyclitis in the right eye, the seriousness of which was shown by the extensive deposits on the posterior surface of the cornea and the anterior capsule, as well as the innumerable fine synechiae. Pupil very irresponsive to atropin and V. reduced to 20/100. The primary eye had not changed.

The treatment which had been relaxed during the last two weeks was reinforced. The symptoms did not increase in intensity beyond a slightly augmented vitreous opacity. After a few days the inflammation began to subside. In about three weeks the second eye had become pale as well as the first one. But for about five weeks longer ciliary irritability reappeared whenever the energetic use of atropin was relaxed. Gradually all punctate deposits disappeared. When all treatment was suspended in April V. was R. eye = 20/20; L. eye = 20/20, minus. No relapse to date.

What has been recently described as *uveitis* consists partly of cases of self-limited duration which I have classified some years ago (Annals of Ophth., Jan., 1893) as central transient circumscribed "chorio-retinitis." Salicylate has no influence upon this form. But in uveitis of a chronic character, of indefinite duration, the drug has a marked control over the intensity of the symptoms. Still I do not know that I have ever cured such a patient permanently.

In acute inflammations of the retina, or of the optic nerve, of unknown origin, I have never seen any results from salicylate. The same I must affirm of retro-bulbar neuritis, which in my observation has always run a self-limited course, ending in partial or complete recovery of sight.

A very prompt influence has been observed in the rare instances of non-traumatic and non-suppurative *tenonitis* which I have met with.

PANOPHTHALMITIS FROM INFECTION WITH THE MICROCOCCUS LANCEOLATUS WITHOUT A PERFORATING WOUND OF THE EYEBALL.

BY JOHN E. WEEKS, M. D.,

NEW YORK.

(Illustrated.)

William Sodder, aged 17 years, came to the New York Eye and Ear Infirmary on November 29, 1902. He complained of pain in the right eye and loss of vision. The pain had first been experienced three days previously and almost simultaneously vision began to diminish. At the time when he presented himself at the hospital the vision in the right eye was *nil*. The ocular and palpebral conjunctivae were slightly congested; lachrymation was profuse, and a very small amount of muco-pus was present in the conjunctival sac; the cornea was clear; the anterior chamber more shallow than normal; the pupil of moderate size; the iris of a yellowish tone as compared with the iris of the fellow eye; the lens transparent; a yellowish reflex was observed which was uniform throughout the pupillary area.

The patient complained of pain in the side of the head corresponding to the affected eye. The appearances were those of plastic choroiditis, and, recognizing the fact that immediate treatment was urgent, I admitted the patient into the infirmary and ordered hot bathing and atropine locally, and small, frequently repeated doses of calomel internally.

The temperature was 99.5° F. and it remained at this point until December 5th when it reached 100° F. The process in the interior of the eye advanced steadily and on December 5th there was considerable chemosis; the anterior chamber was filled with yellow exudate.

On December 6th, recognizing the fact that a condition of panophthalmitis existed and that it was impossible to save the eyeball, I performed the operation of exenteration, washing the cavity of the emptied sclera with a hot bichloride solution, 1-2000. The cavity was then packed with iodoform gauze and a compress bandage was applied. The pain and temperature immediately subsided and the patient obtained complete relief. The packing was changed every forty-eight hours until at the end of the tenth day granulation tissue had appeared and the packing was discontinued.

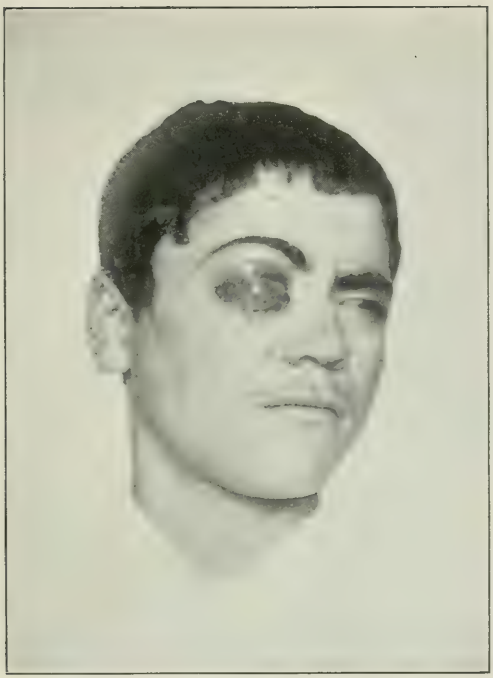
The conjunctiva had become so chemotic before the operation

was performed that a portion of it protruded between the margins of the lids. After exenteration this receded to some extent, but the hypertrophied conjunctival tissue was such that a permanent protrusion resulted, necessitating an operation for its removal, which was done January 13th. On dissecting up the conjunctiva the newly-formed tissue was found to be quite dense and tough. This was excised and was followed by satisfactory healing.

Microscopical Examination by Dr. Geo. S. Dixon.—"Smears were made from the tissue submitted in the case of Wm. Sodder. Diplococci were found, some with a faint capsule, and a few chain forms. Cultivations on blood-serum showed a transparent, slightly elevated growth at the end of twenty hours. Dried and stained smears of the cultivated germ showed the diplococcus lanceolatus. Examined in water the cultivation showed diplococci singly, in pairs and moderately long chains. The single cocci and a few of the chains were motile to a moderate degree, the same exhibiting a Brownian movement rather than true motility. When added to water tinged with an aqueous solution of methyl violet, motility ceased.

December 16th the right eye of a white rabbit was inoculated with an emulsion of the third generation. On the 17th there was considerable reaction. The conjunctiva was red and swollen. The edges of the lids were covered with pus and the anterior chamber was cloudy. On the 18th this condition was exaggerated and hypopyon was present. On the 19th the eye was enucleated and agar tubes inoculated. The same micro-organisms were obtained, but the growth was scanty and slid down into the water of condensation. The third generation was inert. Diagnosis, micrococcus lanceolatus."

In this case there was an indefinite history of a blow on the eyes which was received from five to six days before the patient presented himself at the infirmary, but a close inspection of the globe and of the conjunctiva showed no abrasion whatever and at the time of examining the patient at the dispensary the young man did not remember having received an injury to the eye. There was no appearance of disease of the nasal passages or nasopharynx, no pneumonia, or la grippe. The infection in this case apparently proceeded from within, but the focus from which the micro-organisms were derived was undiscoverable. The case seems to me to be one of extreme interest. It shows the possibility of infection from within in cases of slight contusion which probably reduce the vitality of the tissues, also the possibility of the entrance of micro-organisms into the circulation through lesions too small to be visible.



Panophthalmitis Due to the Micrococcus Lanceolatus. Infection Without Perforating Injury.

THE PHYSICAL ASPECTS OF A THEORY OF COLOR VISION.

BY F. W. EDRIDGE-GREEN, M. D., F. R. C. S.

The view which I wish to bring forward is that each optic nerve fibre is able to convey impulses corresponding to all kinds of light; that is to say, a very similar condition exists in the impulses which are transmitted along the optic nerve to that which is accepted for waves of light previous to their entering the eye. The limitation of the number of color sensations was thought to be necessary because it seemed physically impossible that a single fibre of the optic nerve could convey all waves of light. The facts of color vision can only be satisfactorily explained on the assumption that each optic nerve fibre does convey impulses corresponding to all waves of light. It occurred to me that if there were a transforming apparatus in the eye we could explain the facts. The telephone shows how this may be accomplished in the case of sound. I saw that the retina was constructed in a manner theoretically perfect from this point of view. The percipient layer of the retina is made up of two kinds of elements, the rods and the cones. The portion of the retina corresponding to the central portion of the field of vision contains only cones. External to this spot the cones are arranged with one or more rings of rods round them, the single ring being round those cones which are nearest to the central portion. In the rods there is a rose-colored substance, the visual purple, which is very sensitive to light. This photo-chemical substance is found exclusively in the rods. I assumed that light falling upon the eye liberated the visual purple from the rods, just as heat would an ointment, and a photograph is formed. The decomposition of the visual purple by light chemically stimulates the ends of the cones, and a visual impulse is set up which is conveyed through the optic nerve fibres to the brain. I have examined the retinas of several monkeys after they had been kept in a dark room, and found that the visual purple was to be seen in the yellow spot, but situated between, and not in, the cones. This view gives a reason for a great many facts which were previously inexplicable. For instance, a bright light may fall upon the fovea (the center of the yellow spot) without producing any sensation, and a perceptible interval elapses before we are able to see with the yellow spot, after the remainder of the retina, the fovea being the last point to convey a sensation of light. The first fact we should expect, the cones being insensitive to light:

the second corresponds to the diffusion into the yellow spot of the visual purple. All the facts of color mixing, contrast, and after-images can be explained by the hypothesis that the visual purple is the visual substance. A positive rose-colored after-image can be obtained after white light or any spectral color. The ordinary explanation of this, namely, that the action of the hypothetical red and violet fibres persists longer than those for green, cannot be true, because it is exceedingly difficult to obtain this after-image after spectral red, and very easy to see it after green. It would be against the whole principle of the theory that the red fibres should be excited most efficiently by green. But if we assume that the visual purple is the visual substance, then we have an easy explanation of the facts.

The fibres of the optic nerve pass to the visual center. I have assumed that the visual center transmits to the mind impressions of white light, and that by it objects are seen monochromatically, as in a photograph. The visual center is, therefore, acted upon by impulses caused by all rays of light, the color-perceiving center being concerned with the quality of the impulse within the power of perceiving differences possessed by that center, or portions of that center.

I will now apply this theory to color-blindness, and it will be seen that it gives a simple explanation of the facts.

Cases of color-blindness may be divided into two classes, which are quite separate and distinct from each other, though both may be present in the same person. In the first class there is light as well as color loss. In the second class the perception of light is the same as the normal sighted, but there is a defect in the perception of color. In the first class certain rays are either not perceived at all or very imperfectly. Both these classes are represented by analogous conditions in the perception of sounds. The first class of the color-blind is represented by those who are unable to hear very high or very low notes. The second class of the color-blind is represented by those who possess what is commonly called a defective musical ear. Color-blind individuals belonging to this class can be arranged in a series. At one end of this series are the normal sighted, and at the other the totally color-blind. The colors appear at the points of greatest difference, and I have classified the color-blind in accordance with the number of colors which they see in the spectrum. If the normal sighted be designated hexachromic, those who see five colors may be called pentachromic; those who see four, tetrachromic;

those who see three, trichromic; those who see two, dichromic; and the totally color-blind, monochromic. There are many degrees included in the dichromic class. There may or may not be a neutral band, and this is widest in those cases approaching most nearly to total color-blindness. I have recorded a case of a patient who was color-blind with one eye. It is an interesting fact that for form vision the color-blind eye was much the better of the two, and he could recognize fine lines in the spectrum with this eye which were not visible to the other. He saw the two ends of the spectrum tinged with color and the remainder gray. It will be noticed that his color sensations were limited to the extreme red and the extreme violet, namely, those colors which present the greatest physical contrast to each other. Neither the red nor the violet appeared of the nature of a primary color, but gave the impression that they were largely diluted with grey. A theory of color vision must account for a case of this kind and also for the other varieties and degrees of color-blindness. The trichromic are a very important class, and any theory must account for the fact that they see yellow as red-green and blue as violet-green. As we should theoretically expect, when there is shortening of the spectrum the centers of the colors are moved towards the unshortened side.

I will conclude by showing how this theory will explain the trichromatism of normal color vision. It also explains why certain persons see spectral yellow as red-green and spectral blue as green-violet. In past ages all saw the rainbow made up of only three colors, red, green, and violet. When a new color appeared between the red and green (yellow) it is obvious that a mixture of red and green would give rise, not to red-green, but to the color which had replaced it, namely, yellow.

REPORT OF TWO CASES OF CONGENITAL ANOMALIES OF THE EYES, ILLUSTRATING THE TRANSMISSION OF SUCH DEFECTS FROM MOTHER TO DAUGHTER.*

BY WM. CAMPBELL POSEY, M. D.
Professor of Ophthalmology in the Philadelphia Polyclinic; Surgeon, Wills Eye Hospital.

Case 1. Mrs. K. J., 57 years old, came to my service at the Howard Hospital in April last, for improvement of vision and relief from asthenopic symptoms. Inspection revealed typical coloboma

* Read before the Ophthalmological Section of the College of Physicians, Philadelphia, November 18, 1902.

of the iris in both eyes. As shown by the accompanying sketch, the apex of the coloboma in each eye was down and in, about 10° from the vertical meridian. The coloboma was not perfect in either eye, the ring-like structure of the iris being completed by a narrow rim of tissue between the limbus and the pupillary margin. There were curious wart-like growths on the upper and lower lids of the right eye at the outer canthus, but these were probably merely coincidental and without significance in connection with the changes in the eyeball. The cornea were ovoid in each eye, the axes corresponding to that of the pupils.

In harmony with the defects in the iris, the ophthalmoscope revealed colobomatous formations in the interior of both eyes, those in the right being unusually complete, involving the entire head of the nerve, and forming a deep cleft in the chorioid. As is well shown in the accompanying figure, the top of the coloboma corresponded to the upper edge of the optic nerve. In this portion the ectasia had a depth of about 15 dioptres, the fundus just above it being seen with a convex lens of 5 D., while a concave lens of 10 D. strength was required to outline its bottom. It was about 5 discs diameter broad and this breadth was maintained throughout, the coloboma not broadening toward its base as is the usual custom. The coloboma was not of uniform depth, but as it is well illustrated in the drawing, there were three distinct ectasia, a superior, corresponding to the excavation in the optic nerve, and two inferior in the chorioid, of much the same size and form. A few retinal and chorioidal vessels coursed over the coloboma, and were lost to view before emerging over their edges. The bottom of the coloboma was glistening white, being bereft of pigment or tissue save at its edges. The macular region and the fundus elsewhere appeared healthy.

The left eye had suffered much less, the nerve escaping, save for a small cup shaped depression at the lower outer margin,* the chorioid was but little affected, the coloboma beginning about 2 disc diameters below the disc and extending but about 10 disc diameters inferiorly. The ectasia was oval with underminded edges, deepest above, and was bounded with irregular shaped pigment masses. The vessels stopped at the edges of the coloboma and no vessels or tissue broke the glistening white scleral reflex of its bottom. The level of the fundus was seen with a convex 3 D. lens, the bottom of excavation with a concave 3 D. lens. Vision in the right eye equalled

* This corresponded precisely to the excavation in the head of the optic nerve, pictured by Szili in Fig. 5 of Plate III., in his monograph on *the morphography of the entrance of the optic nerve in the human eye.*

5/70; in the left 5/50. The field showed a marked restriction in the upper part being contracted almost to fixation; the fixation point in both eyes was, however, unaffected.

Case II. Mrs. S. S., æt. 23 years, daughter of Cast I. This patient had never complained of her eyes but submitted herself to examination at request, when it was learned that she too had "queer looking" pupils. As is shown in the accompanying sketch, examination revealed the suggestion of a colobomatous shaped pupil in the right eye and a moderate degree of corectopia in the left. The cornea and pupil in the right eye were both ovoid, at an axis of 100°; in the left, the cornea was ovoid at an axis of 90°, but the pupil was round and displaced slightly above.

Figure IV well depicts the ophthalmoscopic finding in the right eye, *i. e.*, a moderate amount of absorption of the retinal epithelium with exposure of the chorioidal circulation and some irregular patches of pigment, in an area beginning at the lower level of the disc and extending directly below to almost the periphery of the fundus. About 3 disc diameters below the disc there was an ectasia about 6 dioptres deep, with some chorioidal vessels crossing it.

The fundus of the left eye was normal. Vision in the right eye equalled 5/4, in the left 5/5. The field in the right eye was restricted for color superiorly, that of the left was normal.

My reason for presenting these cases to the Section is because they illustrate the transmission of anomalous conditions from parent to offspring; the chief point of interest, however, centers in the fact that the transmission was from a typical coloboma in the mother's eye to anomalous formations of lesser degree in the daughter's eyes, which are not usually recognized as having any connection with coloboma.

The mother presents the not very rare condition of coloboma of the iris, chorioid and optic nerve, the daughter a moderate degree of corectopia associated with certain disturbances in the chorioid in the median line below the nerve, which taken in conjunction with the coloboma of the chorioid in the mother's eyes, suggests that they too had resulted from an imperfect closure in the foetal cleft.

In explanation of the appearance of these anomalous conditions in the eyes of mother and daughter, and of the appearance of typical colobomatous formation in the eyes of one and of corectopia and certain chorioidal changes in the eyes of the other, I would like to call the attention of the Fellows to an article* which I read before the

* Archives of Ophthalmology, Vol. xxvi, No. 3, 1897.

Ophthalmological Section of the American Medical Association in June, 1897. In that paper I reported a series of cases presenting some unusual congenital defects of the iris, and dwelt at some length upon the genesis of congenital defects of the iris in general, advancing the hypothesis that all anomalous condition of the iris might be occasioned by the improper development of the vascular framework of the iris. I said that "the marginal portion of the secondary optic vesicle from which the iris springs, is essentially a vascular tissue, consisting of but little more than a network of blood-vessels, supported on a delicate connective tissue, which is derived from the endothelial layer and a few spindle cells from the anterior layer. These vessels are formed through the union of the long and anterior ciliary arteries, which anastomose to form the major circle of the iris. From this circle small branches are given off which run inwardly between the cornea and the lens, and represent the chief blood-vessels of the iris. Each of these vascular loops is surrounded with connective-tissue cells which become the stroma of the iris. These vascular twigs with the proliferating cells about them protrude into the anterior chamber and viewed at this stage would represent, to my mind, a segment quite analogous to those which have just been referred to,* and if the process of development stopped here, we would have an appearance similar to that noted in my first case, *i. e.*, a number of more or less isolated roots or segments. Later a union of these segments occurs and the complete iris is formed, the ring-like character of the pupil being given it as a result of the peculiar arch-like form of the vessels after they unite to form the minor circle.

If these segments represent, as I believe, the proliferation of tissue around a twig of the major circle of the iris, and if the iris really grows in this manner, through a primary protrusion of these twigs, then the explanation of many forms of anomalies of the iris would be a simple matter, for we need only suppose an absence of one or more iridal capillaries to account for a defect in the membrane in any position or to any extent, and the occurrence of the isolated segments which have been cited would be readily explained. Although this theory is hypothetical, all others which have been advanced to explain anomalies of the iris are also liable to the same

* The iris in the case referred to was but rudimentary, being about 2 mm. wide in its broadest part. Under high magnification it was discovered that this ribbon-like ring of iris tissue was composed of one well developed and two smaller roots or segments which were crescentric in form and joined with one another to form a complete ring of iris tissue.

reproach, for they are all founded upon clinical observation and insufficient microscopical proof.

By this theory the close phylogenetic relationship between coloboma and other anomalous conditions of the iris can be readily explained, a complete typical coloboma representing the absence of a main iridal branch, corectopia, a slight irregularity in the proper distribution of one of the twigs.

TRICHLORACETIC ACID TREATMENT OF INFECTIVE ULCERS OF THE CORNEA.

BY ALBERT E. BULSON, JR., B. S., M. D.,
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Infective ulcers of the cornea (purulent keratitis) are always serious. They usually result from injury to the cornea from a foreign body, with the introduction of infection at or subsequent to the time of injury. Occasionally the most trifling injury to the cornea, as that from a cinder, is all that is required in those whose nutrition is depressed to terminate, through introduction of infection, in a purulent form of corneal ulceration. Perforation of the cornea, with attending introduction of infection and formation of pus in the anterior chamber of the eye is a common complication, and not infrequently the purulent inflammation extends to all intraocular structures (panophthalmitis) and ends in total loss of sight and eventually a shrunken globe.

Treatment must be heroic if the process is to be checked. The application of caustics, the use of the galvano-cautery, and scraping the ulcerated area with a curette are among the means generally advocated for checking the infective process. The writer has had success in the use of the galvano-cautery, and in curettage followed by applications of pure carbolic acid to the affected area. The report of Dr. Fox on the use of trichloracetic acid in the treatment of purulent ulcers of the cornea (*Medical Bulletin*, April, 1902) led to the employment of that form of treatment in two recent cases, and the results seem sufficiently interesting to warrant report:

Case I. A. G., 20 years of age, presented himself at my office Sept. 25, 1902, with a history of having injured his left eye with a corn husk five days before. For two nights the pain in and around the eye had been so severe that rest was out of the question. Examination disclosed an exquisitively sensitive and decidedly congested

eyeball, the cornea of which presented an area of yellowish infiltration in the lower quadrant, centrally excavated and perforated. The anterior chamber was about one-third full of pus, and vision reduced to perception of light only. An unfavorable prognosis was given. By paracentesis of the cornea in its lower portion most of the pus in the anterior chamber was evacuated. Following this the infected area of cornea was carefully cauterized with a 20 per cent solution of trichloracetic acid. Notwithstanding previous anesthetization with cocain the pain for a few minutes was very severe. A strong solution of atropine was instilled and patient instructed to use hot 1 to 8,000 bichloride douches and applications. Twenty-four hours later the eye was free from pain, the purulency had entirely disappeared from the ulcer, and the hypopyon had practically disappeared. Recovery from that time was uneventful and but for the leucoma (an inevitable result) the eye is fairly normal, and possesses useful vision. (20/50 six weeks after coming under treatment).

Case II. P. T., age 56, came under my care November 30, 1902, for treatment of right eye, injured by tenpenny nail flying from hammer. Upon examination the eyeball was found congested and painful to touch. In the lower third of the cornea a perforated purulent ulcer existed, with extensive infiltration of surrounding corneal tissue. Anterior chamber one-fourth full of pus and iris prolapsed through corneal opening. Vision reduced to perception of bright light only.

Gentle efforts at reposition with a probe resulted in reduction of the prolapse but not in preventing anterior synechiae subsequently. Following cocainization a 20 per cent solution of trichloracetic acid was carefully applied to the infected area of cornea and the patient put to bed. Compress bandage and heat as subsequent treatment. Thirty-six hours later every evidence of purulency had entirely disappeared. Patient made an uneventful recovery and six weeks after injury had vision 20/40. The lower third of cornea presents quite a large opacity, and the iris is slightly adherent to the cicatrix marking site of perforation, the patient not consenting to release of the latter by operation.

The experience in these two cases leads me to believe that in purulent ulcerations of the cornea, no matter what the character of infection, treatment with trichloracetic acid is superior to treatment with pure carbolic acid or any other caustic the use of which the writer is familiar with, much safer than cauterization with the galvano-cautery, and more efficient than curettage.

CONCERNING THE DISAPPEARANCE OF THE LESIONS IN CIRCINATE RETINITIS.*

BY G. E. DE SCHWEINITZ, A. M., M. D.,
PHILADELPHIA.

On different occasions I have presented to the Section the notes of cases of circinate retinitis and illustrated them with water-color sketches and once have discussed the same disease before the general meeting of the college.

The first patient, a woman, aged 77, was studied in the Jefferson Medical College Hospital, first on April 14, 1899, her right eye presenting the typical appearances of the disease which is now usually known as circinate retinitis. The article describing her ocular conditions and illustrated with a water-color, was published in the Ophthalmic Record, January, 1900. Five months after the patient's original visit to the hospital, although vision was practically unchanged, the ring of exudate was more broken than when it had been originally examined, these breaks being chiefly evident above and on the downward curve. Scattered along the line of the lesion were numerous cholesterin crystals, principally below. The disease in the macular region had become more extensive and was represented in the visual field by a scotoma, although it was not possible to demonstrate a scotoma indicating the circinate deposit.

The second patient, a woman, aged 35, presented ophthalmoscopic appearances not as typically circinate as those of the woman just referred to, but none the less in general terms analogous. Her history given at that time, namely, Nov. 21st, 1900, was as follows:

The patient's father is living and has good sight; her mother died at the age of 45 from hemorrhages, probably pulmonary although the only description obtained was that the hemorrhages came from the mouth; the patient has one sister and four brothers, in good condition physically, and as far as she knows they have no trouble with their vision. With the exception of the usual illnesses of infancy, which are said to have manifested themselves with unusual severity, the patient has not been seriously ill. Four years ago she suffered from lumbago, and has always been troubled with defective circulation in the sense that the hands and feet are usually cold. So far as is known her habits have been good and the history of acquired or inherited specific disease was not elicited. She had pursued the occupation of dressmaking for fourteen years, but two years prior to her visit to me her vision became too defective for this calling. Some years ago she states that when her eyes were being examined by the late Dr. Keyser they elicited great interest and many students were called to look at her.

The patient is a small, but well-formed woman, the skin surface

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Read before the Section of Ophthalmology of the College of Physicians of Philadelphia.

rather pallid but the lips of good color. Physical examination, which, however, was not very exhaustive, failed to reveal evidences of organic disease. From the description given December 10, 1900, I may quote as follows:

"It will be noted that the nerve-head is nearly round, its outer half atrophic; the vessels are about normal in size and carry normally tinted blood. The disc is surrounded by a faint choroidal ring, while at its outer side is a yellowish area, somewhat pigmented on its borders. Beginning on the top of the disc and following in general terms the sweep of the temporal vessels is a crescent of yellowish-white discrete spots which terminates beyond the macular region, and after an interval begins again below this region in a somewhat irregular fashion, reaching almost to the lower margin of the disc. The center of the area surrounded by this ring of exudate is occupied by a yellowish area of exudate, three times the size of the disc, which is fringed everywhere, except at one spot below, by a broad band of hemorrhage which downward and outward becomes constricted and then expands into a figure not unlike a waterspout in appearance. Down and slightly inward from the central mass are four smaller, yellowish-white and partly pigmented patches, resembling somewhat, except in color, cross sections of the cerebellum. A few yellowish dots of exudate are to be seen on the hemorrhage area."

Vision equalled counting fingers eccentrically at 50 cm. and the peripheral field of vision was uncontracted, but its center was occupied by a scotoma in shape and size resembling the exudate in the center of the ring of yellowish-white deposits.

After two months of treatment, which consisted of ascending doses of iodide of sodium, the patient returned, and the fundus presented appearances very different from those which have just been described. The spots in the upper crescent were fewer in number, while those below had entirely disappeared and the band of exudate had contracted considerably and its hemorrhagic fringe had almost disappeared. Bichloride of mercury was now added to the treatment and the iodide of sodium continued.

Again in two months the patient reported, and no trace of the circinate lesions was visible, only a much smaller and more condensed central exudate. Vision now equalled 5/100. Gradually the central area began to absorb, and a little less than one year after her original visit the ophthalmoscopic appearances were as follows: The disc is nearly round and its outer half distinctly pallid, that is to say, the papillo-macular area is paler than the rest of the disc. Beyond this is a slight fringe of pigment disturbance. In the macular region and slightly above it is the only lesion which remains of the extensive ones first seen. This consists of a slightly egg-shaped, greenish-white exudate which terminates above in a narrow, white prolongation. The surface of this exudate is + 3D, the general eyeground about + 1 D. From its temporal border, following the curve of one of the macular veins, there is a crescent-

shaped extension, while below it and directly occupying the foveal region there is a somewhat tesselated appearance, streaks of atrophy interchanging with delicate pigment markings. The retinal vessels pass over this exudate. Elsewhere the eyeground is absolutely normal in appearance and the bloodvessels carry healthy-looking blood. The field of vision is normal in its peripheral extent; its center is occupied by a small, absolute scotoma which represents the lesion just described.

The third patient, a woman, aged 33, was studied in the Jefferson Medical College Hospital, January 29, 1902. She is the subject of adiposa dolorosa of the localized diffused variety, the preponderance of the deposit being upon her thighs. There is nothing in her family or personal history which helps to explain the ocular condition. Her case has been fully reported by Dr. F. X. Dercum in the *Philadelphia Medical Journal,* March 1, 1902.

Her right eye is normal in all respects. Her left eye presents the following ophthalmoscopic appearances. The nerve-head is nearly round, slightly pallid on its temporal aspect, and is surrounded by a pigment ring, slightly fringed and more pronounced on the temporal nasal side. Directly in the macular region is a circular area of yellowish-white exudate, about the size of the disc, surrounded by a broad ring of pigment, over which the retinal vessels pass. The apex of this exudate is about + 3 D., the general fundus + 1 D. Downward and outward from this central mass and beyond its pigmented circumference is a dark, diffuse hemorrhage, and between the macular exudate and the disc a similar extravasation. Some retinal vessels pass over the surface of the central lesion. Beginning near the disc and following the sweep of the temporal vessels outward toward the macula, is a broad zone of yellowish-white clustered spots, with intervening pigment lines, which, somewhat broken, passes beyond the central exudate, and even more broken passes beneath it near to the lower margin of the disc. The retina between the macular deposit and the inner margin of the circinate deposits is not normal, but is riddled with small, yellow dots, pigment flakes and some hemorrhages. No decided change, one way or the other, occurred in this eye-ground while the patient was under observation, a period of three months. Unfortunately, she has not been again seen.

The following explanations have been suggested to account for the lesions of circinate retinitis:

1. Fibrinous exudates in the deeper layers of the retina coagulate and form the plaques and masses which constitute the characteristic zone (Fuchs).

2. The foci represent areas of fatty degeneration which in turn have arisen from hemorrhages; in other words, the disease is not a special form of retinitis, but is a fatty degeneration following hemorrhagic retinitis (De Wecker).

3. The white spots consist of fat cells where formerly hemorrhages had been present (Amman).

4. The lesions depend upon a fibrinous exudate, in which fatty changes may take place in the later stages, in the external retinal layers, their location being limited to the so-called layer of Henle (Nuel).

5. The yellowish-white areas are simply one of the manifestations of an old-standing edema, thus marking out the periphery of the affected region, the size of the circle varying according to the amount of the previous affection (Marcus Gunn).

6. The characteristic degeneration depends upon vascular changes, especially upon changes in the group of vessels which supply the macular region; these vessels are obliterated and the parts supplied by them are destroyed (Goldzieher). In other words, this condition of degeneration of the tissue of the retina results from a disease of the smallest macular vessels, especially the arteries (Oeller).

It is posible that several of these explanations may be correct, one being operative in one case and a second in another, but I think, in spite of the assertions of De Wecker, Masselon and Amman, based as they are on clinical and pathological observations, that it is too much to assume that these white patches always depend upon preexisting hemorrhages. As Oeller[1] justly says, "it is not very intelligible how such large patches with a quite definite and characteristic grouping should develop from hemorrhages which perhaps are not always visible with the ophthalmoscope, but are at any rate irregularly distributed. Although retinal hemorrhages do usually occur in retinitis circinata, yet the appearance of white dots after hemorrhages proves their etiological relation to one another just as little as their simultaneous occurrence would, even though the anatomical examination does show disintegrated red blood corpuscles inside fatty granular cells. The ring of spots, therefore, could hardly be a direct result of hemorrhages. The hemorrhages and spots, however, have most likely a common origin in the degeneration of the vessels."

It must further be admitted that not all of the eye-ground lesions which have been described and depicted as circinate retinitis are exactly alike. In other words, both typical and atypical varieties have been recorded. This fact may explain the different views which have been expressed in regard to the etiology of the affection and still further help to explain varied statements as to the ultimate

[1]Atlas of Rare Ophthalmoscopic Conditions by Dr. Oeller, translated by Thos. Snowball.

outcome of the disease, *i. e.*, whether the lesions are permanent, progressive or retrogressive. Taking all cases together, three terminations seem possible:

(1) The disease is essentially chronic and the ophthalmoscopic appearances remain unchanged for years.

(2) True white degeneration of the retina is slowly but surely progressive (De Wecker). Indeed, to use the words of Joseph Schöbl, "in some cases the exudation does not disappear, and gradually the retina becomes enormously thickened. The macular spot and zone of white spots are changed into dirty, yellowish-white, protruding, connective tissue-like masses." Vitreous opacities, posterior synechiae and retinal detachment may occur (Fuchs).

(3) The ring of white spots may partly disappear, as, for example, in my first case,[2] or to speak more accurately, the zone of exudate breaks up and partly disintegrates; or the entire circinate exudate may disappear, as in my second case and also in one recorded by Hartridge; or finally, both the macular exudate and zone of white spots may be absorbed, as in a case recorded by Fuchs.

I am well aware that De Wecker would exclude from the category of true white degeneration of the retina, those cases in which a disappearance of the lesions has been described; but if they are admitted, as it seems to me they should be, at least as varieties of the disease, even if they are not typical (and one of my cases does not seem to be far from typical, while another in which there was partial (later entire) disappearance of the circinate lesion was exactly typical), then we may say that the disease is not always progressive.

The evident conclusion of the matter is that given a case of so-called circinate retinitis, a fatal prognosis *quoad visum* should not immediately be given and all reasonable therapeutic measures should have fair trial.

As to the length of time required for the absorption and disappearance of the spots definite statements cannot be made. I have seen beginning disintegration of the ring in five months in one case, and its complete disappearance in a little more than a year in another. Four years elapsed before this desired result was obtained in one of Fuchs' patients. Doubtless in those cases in which the processes of absorption remove the white spots, the disease of the macular vessels which has caused the lesions to arise has not been sufficiently pronounced or persistent to bring about destruction of

[2]Dr. Hansell informs me that he has seen his patient recently and that the zone of white spots has entirely disappeared.

the areas which they supply; or it may be that Marcus Gunn's explanation fits these cases, *i. e.*, that the zone of white is really a manifestation of long-standing edema. Suppose, as he suggests, that an inflammation of the macular region arises and from it an edema extends circularly for a certain distance until stopped by contact with the healthy retina. At this peripheral circular fold or puckering the changes would take place and assume the shape they have in circinate retinitis. Suppose again that the central inflammation should subside and with it the edema, then also would the white spots by which it was interpreted disappear. Be this as it may, these cases should be treated. I have some faith in the iodides, especially the iodide of sodium; mercuric bichloride seems useful. I would also try subconjunctival saline injections and perhaps pilocarpin diaphoresis.

The first Egyptian Congress met at Cairo, December 19-24, 1902. In the Section of Ophthalmology, Dr. Voilas, of Cairo, said that acute trachoma does not exist; its evolution is always chronic and latent, having for its seat the cellular tissue adjacent to the conjunctiva. It is a disease of the connective tissue, and not of the conjunctiva itself. Dr. Guarino, of Cairo, has examined conjunctivæ of some of the well-conserved mummies, and concludes that trachoma existed from time immemorial. He concludes that trachoma invades the lymphoid layers and engorges the lymphatic cells. The trachomatous bodies are formed of agglomerated corpuscles, which represent a lymphatic follicle, analogous to Peyer's patches. They are glandular new formations, covered with epithelium, and scattered in the thickness of the mucosa and submucosa. Dr. Eloui Bey, of Cairo, discussed conjunctival granulations. After having spoken of the etiological conditions of granulations, individual causes, the dirtiness of the Fellahin (Egyptian peasants) and their dwellings, and flies as vehicles, he passed to the symptoms which he described minutely, and gave statistics from the governmental, national and primary schools (kouttabs). In the governmental schools 32 per cent, in the national schools 65 per cent, and in the kouttabs 75 per cent, of the students were affected. He concluded that the disease was the more frequent and serious the more filthy and overcrowded the people are in their habits. The hygiene of houses, their ventilation, disinfection and cleanliness are prophylactic measures advised.—*Philadelphia Med. Journal*, January 31, 1903.

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OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Clinical Evening, December 11, 1902.

William Lang, F. R. C .S., Senior Vice President in the Chair.

Previous to the commencement of the meeting Mr. Lang referred in feeling terms to the loss the Society had sustained by the death of the president, Dr. Divid Little. Subsequently Mr. Lang was elected by the Council to fulfill the duties of the president for the remainder of the session.

Mr. Stephen Mayou showed a case of *Contracted Pupils undilatable to a mydriatic.* Mr. Sydney Stephenson said that there was in the patient evidence of congenital syphilis with absence of knee jerks and he looked upon the case as one of early tabes. The pupils reacted to accommodation but not to light.

Dr. Edridge-Green gave demonstrations of a *Classification Test for Color-blindness and also a lantern for the detection of Color-blindness.* The first consisted of colored wools, silks, glass, and cards. It was quite impossible for a person to tell by contrast the different colors unless they were actually able to recognize them. The lantern test consisted of one in which colored glasses either alone or in combination could be used.

Mr. Charles Blair and Dr. Bernard Potter showed two cases of *Aniridia* and one of *Coloboma of the Iris* in the same family.

Mr. Blair also showed a case of *Zonular or Ribbon Shaped Opacity in the Cornea.*

Mr. E. E. Maddox demonstrated an *electric eye heater* which could be applied in an eye dressing and which could, by means of a regulating transformer, be heated by the current from the main. He also showed a lamp resistance.

Mr. Sydney Stephenson exhibited several patients whose *corneae had become stained by the long continued use of sulphate of copper for trachoma.* The opacity covered the central part of the cornea, and was accentuated towards the upper and lower margin so as to form two crescents of a rusty or greenish color. Pieces removed from the affected cornea by scraping gave some of the characteristic chemical reactions of copper.

Mr. N. C. Ridley showed a case of *Congenital Anophthalmos* and one of *Embolism of the Central Artery of the Retina* in a young girl which followed a severe fright.

Mr. Treacher Collins showed a case of *Atrophy of the Optic Nerves due to ligntning.* This was probably due to electrolytic action.

Mr. Arnold Lawson showed a case of *Acromegaly in which there was Bitemporal Hemianopia.* He had treated the patient with pituitary gland and although one eye had improved a good deal yet the other, which was at first the better of the two, had become a good deal worse. Mr. Doyne had seen no good result arise from the treatment with pituitary gland.

Mr. Lawson also showed an unusual form of *Retino-Choroidal change the result of Haemorrhage.*

Mr. Lang thought the case extremely suggestive of *Sarcoma.*

Mr. Jessop showed a case of *Optic Neuritis with peculiar Retinal Changes.*

Dr. F. E. Batten showed a case of *Cerebral Degeneration with*

C. Devereux Marshall, F. R. C. S.

MEXICAN OPHTHALMOLOGICAL SOCIETY.

TRANSLATED BY A. B. HALE, M. D.

Meeting of July 7, 1902. Dr. Montano presiding.

Huge papillomata of tarsal conjunctiva in exuberant pericon-junctivitis.—Dr. Vélez showed a girl of 14, disease having existed for eight years; she herself at five first discovered the condition when she happened to evert the lid and saw the granulations. Microscopical examination showed stratified pavement epithelium, in some places noticeably enlarged. "Plasmatis cells of Unna," forming zones around the blood vessels. Treatment by cautery and electrolysis was imperfect, but glycerite of iodin gave best results, though it did not completely remove the growths.

Uribe Troncoso considered this a valuable contribution to the clinical study of periconjunctivitis. A few months ago the papillomata had looked like genuine tumors. He had at first thought of trachoma, even.

Cysticercus of Vitreous.—Dr. Montano showed a case which had seemed to be prolapse of the retina, but where a live cysticercus had been found. He had no faith in drug treatment, and preferred enucleation to either attempt at extraction or electrolytic puncture. Dr. Ramos said that in some cases diagnosis was hard, and might be confused with retinal leucosarcoma. Uribe Troncoso preferred to leave enucleation for the last and to practice extraction with forceps. The operation had been successfully done and should always be tried. Vélez preferred electrolytic puncture, and if the animal was killed, the vitreous might easily tolerate it.

Meeting of September 4, 1902. Dr. Lopez, presiding.

On motion of Uribe Troncoso it was resolved: "That the Society meet monthly in ordinary session and annually in extraordinary session. At the annual meeting there shall be chosen in advance two topics of general interest for the study of which there shall be appointed two essayists."

Chanez had seen a case of *zonular cataract* showing areas of choroidal atrophy. He had practiced iridectomy in such cases with good results. He also told of an enucleation which did not give a good prothesis till he did a plastic operation with conjunctival flaps, and asked whether skin flaps are serviceable in such conditions. Uribe Troncoso had used skin from the arm, and although there was noticeable retraction after six months, he thought less than of conjunctiva.

Melanotic form of exuberant periconjunctivitis.—Uribe Troncoso said that Dr. Ramos had proposed to call it oxide of iron conjunctivitis. Pigmentation is a not unusual symptom, but is sometimes very prominent in periconjunctivitis. Diffuse conjunctival pigmentation may be an entity, and even then may proceed from irritation after periconjunctivitis.

Lopez showed a patient with cysticercus in the vitreous, below and near the ciliary region. The advice of Dr. Vélez, who told of his treatment of the case presented in the meeting of July 7, 1902, had been followed. A subconjunctival injection of cyanid of mercury was given. A few days afterwards Dr. Vélez had used electrolytic puncture, managing to touch the vesicle with the needle (negative pole employing a current of 7 m. amperes for one minute).

the positive pole being on the sclerotic. The animal's movements had been inhibited but the exudate around the vesicle had prevented good vision. The patient had suffered acute pain for two days.

Meeting of October 2, 1902. Dr. Santos Fernandez (Habana) presiding.

Treatment of Cysticercus discussed in the previous meeting, continued.—Lopez had continued the study of the case reported, but could see no change, though the patient reported improvement, perhaps because he dreaded further treatment. Male fern, he had found, too thick for subconjunctival injection, but Prof. Calderon had prepared a solution in sterile oil, which, injected beneath the conjunctiva of a dog and rabbit, had caused great inflammation with edema, which finally subsided. Injected into the vitreous of an animal it caused complete and permanent opacity. This enucleated eye he now had for examination.

Concerning electrolytic puncture, he found that all authorities used the positive pole in treatment of vitreous opacities and of prolapse of retina. The positive pole is less active, less destructive and forms a slight scar. The negative pole forms a greater scar. He would be inclined to use the positive pole.

Uribe Troncoso was skeptical about the absorption of drugs such as cyanid of mercury, subconjunctivally, used as a parasiticide, but, injected into the aqueous or vitreous, salt solution of mercury might act as an astringent upon the vesicle of the cysticercus. The eye with cysticercus is in danger and may suffer from iridocyclitis, etc.; electrolysis is promising, but its results uncertain. He was not sure that in Dr. Vélez' case the animal had been killed. Enucleation might yet be necessary. Most European authors doubted the use of electrolysis and preferred the forceps. He quoted statistics on this point, that 60 to 70 per cent of success followed. He considered the extraction of the cysticercus, subretinal, not difficult—not much more difficult even if within the vitreous so long as the ophthalmoscope could follow the advance of the forceps. Some loss of vitreous was not to be feared. An incision of one to one and a half centimeters sufficed.

Montano supported the opinion of Uribe Troncoso. No electrolysis, but forceps first, then enucleation if necessary. Vélez referred to the analogous extraction method of using the electromagnet for iron in the vitreous, and would prefer the electrolysis to forceps. Chacon rather supported Uribe Troncoso and Montano. Chanez thought electrolysis a faulty procedure. Uribe Tron-

coso closed by saying that electrolysis was faulty, either because it did not kill and therefore left the animal to do still further mischief (iridochoroiditis), or because it did kill and left the cadaver to do the mischief. In his judgment immediate extraction with forceps was best.

COLORADO OPHTHALMOLOGICAL SOCIETY.

Meeting of December 20th, 1902, at Colorado Springs. Dr. E. R. Neeper, of Colorado Springs, chairman for the evening.

Case 1. Ralph, aged 12. Shown by Dr. J. A. Patterson, of Colorado Springs. History of injury: On the 4th of July last, by explosion of firecracker in right eye, traumatic cataract resulted with divergent strabismus. In this condition he was seen by Dr. Patterson about a month after the accident. His parents claim that the boy had no strabismus before the accident. The pupil was widely dilated and bound down by extensive posterior synechia. A needling was performed September 9th, but as there was little or no absorption, on Nov. 15th a linear extraction was performed. There is still some opaque corticle below, and the pupil remains widely dilated and fixed. Vision is 5/5 W. + 11.00 ⊃ + 1.50 ax. 90. This correction was given for O.D and for O.S + .25 ⊃ + .25 ax. 90, in hopes of overcoming the divergent squint. The boy has diplopia with or without his correction. He manifests from 16° to 24° of exophoria and 9° of hyperphoria. He is more comfortable with his refraction corrected. He converges all the pictures of the Bull-Holmes stereoscope, and practices with a 25° prism, base out. At times he is able to maintain binocular single vision by a seeming voluntary effort.

Case 2. Shown by Dr. Geo. F. Libby, of Colorado Springs. Mrs. A. M., aged 57. Presented herself for examination Nov. 8th with history that two nights ago noticed sudden blurring of the sight of O. D. Complete loss of vision soon supervened with photopsies but no pain.

Condition: O. D. V. 10/300, in naso-inferior field, O. S. V. 5/20. Refraction about 2 D. hyperopic. Urine normal. Fundus, numerous retinal hemorrhages and large dense vitreous opacity below with general vitreous cloudiness. He prescribed mercury and iodide of potassium which she took for two weeks and then stopped taking it. Of late there has been a steady improvement without medication. The vitreous opacities are clearing, and no hemorrhages to be seen.

Vision 5/30. He desires to know if it is advisable to allow her to go on without medication?

Case 3. Shown by Dr. E. R. Neeper. C. N., aged 64. General health good. Has never had to use eyes much for near work. Complains of defective vision for past six years. O.D.V. 20/30. O.S.V. 20/40. Lying just underneath the anterior capsule of each lens is a ring opacity 2½ mm. in diameter with a semitransparant center, the lenses otherwise are normal.

Case 4. Shown by Dr. Neeper. D. G., aged 23. Family history good. General health good. Nine years ago while playing ball he collided with another player receiving a deep cut 1½ inches long and ¾ of an inch below left eye and parallel to the margin of the lower lid. A physician closed the wound with eight stitches healing being uneventful. Since then each time that he closes the eye the whole left side of the face moves in unison. The patient has become very sensitive about it, in fact almost morbid. He is willing to submit to any operative procedure. For the present he is receiving massage administered by an expert, and a very decided improvement is manifest. It is evident that the orbicularis muscle is adherent to the skin, and the question is, other means failing, should an operation be tried, and if so, how should it be done?

Case 5. Shown by Dr. Neeper. T. N., aged 12. This boy is very fond of bathing. Often locks himself in the bath room and remains in the tub for hours. When he does this his eyes are inflamed for a day or so. Inflammation then usually subsides, but sometimes lasts a week or more. He came under Dr. Neeper's care about a month ago because his eyes had troubled him longer than usual after one of his baths. The patient complained of photophobia and lachrymation. There was found present follicular conjunctivitis, with numerous superficial and deep corneal opacities. The conjunctiva and the superficial corneal opacities have cleared up. There is not as much photophobia. The deep corneal opacities ren ain unchanged, there being about twenty in the right cornea and thirty-five in the left.

Case 6. Shown by Dr. Neeper. G. W. H., aged 53. Health excellent until within last few months. Lungs feel sore. Works regularly at his trade of carpentering. Some distress in left occipital region. On Nov. 27 while building morning fire noticed that O. D. was blind. In half an hour vision returned and remained so until the afternoon of the next day, when the same eye again became blind. Dr. Neeper saw him Nov. 29th, when he found the vision of

the affected eye to be nil, with a typical ophthalmoscopic picture of plugging of the central artery of retina. The patient was instructed in the use of vigorous deep orbital massage, and was given internally Kali. Iod. Dr. Neeper has not seen him since until tonight. At present there is a slight, but an increasing amount of peripheral vision. The macula now has a dark pigmented appearance, and there is a retinal hemorrhage near the disc, that he is sure was not there when he saw him before.

Case 7. Shown by Dr. Neeper. S. S., aged 38, colored. Servant. Good health. Rheumatic diathesis. Under homatropine she accepts + 1.25 in O. D. and + 2.00 in O. S. with vision of 20/30. Right field normal. Left field contracted in superior temporal quadrant. She complains that vision of O. S. has been failing for past six weeks. No pain at first, but has darting pains in this eye now six or seven times a day. Gives a history of O. D. having been blind for six months some eight years ago, and of the vision being gradually restored to normal without treatment.

Condition.—Fundus of O. D. normal. In O. S. there is a peculiar choroidal change resembling disseminated choroiditis. There is no history of injury.

Discussion.—Dr. Black in discussing Case 1 said he did not understand what Dr. Patterson expected to accomplish by correcting the aphakia so long as perfect vision obtained in the fellow eye. He had always believed that such correction would produce constant diplopia and that no amount of training would enable the patient to fuse the images. Further, that the aphakic correction was contraindicated for cosmetic reasons. For the present he should be contented to correct the upward turning of the divergent eye by tenotomy of the superior rectus, and if divergence persisted, after some years, when it had become fixed, he would advance the internus for cosmetic reasons.

Dr. Geo. F. Libby said in regard to this same case that beyond the correction of the hyperphoria he would do nothing.

Dr. Edward Jackson, of Denver, thought that there were some reported cases of monocular aphakia with perfect vision in the fellow eye where binocular single vision had been obtained with aphakic eye corrected. He would advise Dr. Patterson to persevere along the lines upon which he has been working. He thought Case 3 shown by Dr. Neeper one of congenital cataract. He thought Case 6 had first a spasm of retinal arteries and that a thrombus

formed as a result. He recalled similar cases that he had seen where the first attack of blindness was of short duration with perfect restoration of vision followed by permanent loss of vision from the formation of a thrombus. In regard to Case 4 he was not in favor of operation. He would advise that massage be continued, and that thiosinamine be given internally. Dr. Black concurred with Dr. Jackson in this. Dr. Jackson would advise in Case 5 that the boy be put upon inunctions of mercury and hydriodic acid.

Dr. Wm. C. Bane, of Denver, asked if the hemorrhage present in the retina of Case 6 could have been caused by the deep orbital massage.

Dr. D. H. Cooper, of Denver, would advise that an operation be performed upon Case 4 with a view to freeing the adhesions between skin and orbicularis. He had once performed successfully such an operation for just such a condition.

Dr. A. C. Friedmann, of Colorado Springs, would in Case 4 dissect out the scar tissue and transplant a new piece of skin from the arm.

Dr. Patterson said in Case 1 he had corrected the aphakia purely for experimental reasons. It was evident that divergence and sursumvergence was rapidly developing before the correction of the aphakia, and that it had not progressed since the correction was given. Diplopia was present with or without the correction. He was disposed to correct the upward turning of the eye as proposed, as he thought it would make the divergence easier to handle without operation.

CASES REPORTED.

Dr. Edward Jackson reported the case of a man, who, while cutting iron with a cold chisel, was struck in the eye by a flying particle. He was not seen by Jackson until three or four days after the injury. The cornea presented a 3 mm. irregular wound. Nick in pupillary margin. Lens becoming opaque in streaks. No view obtainable beyond this. He performed a linear extraction of lens. Used Johnston's magnet in front of cornea without result. He then introduced the long tip of magnet through the wound made for extraction and withdrew a chip of iron 3x2x1 mm. A drop or two of vitreous escaped. This kept wound open for five days. On the eighth day vision was 4/15 w. + 10.00. He went home a few days later with vision of 4/9 w. + 11.00 ⊂ + 1.50 ax. 15. The pupil was not then entirely free from corticle.

Denver meeting of Jan. 17th, 1903. Dr. Edward Jackson, chairman for the evening.

Case 1. Shown by Dr. E. W. Stevens, of Denver. Italian, aged 40, was struck in right eye Dec. 22, while chopping wood, by a sword shaped piece of wood. The globe was penetrated at the nasal sclero-corneal junction. The globe was collapsed from the escape of aqueous and vitreous. Dr. Stevens closed the wound by using ten sutures. In this operation more vitreous was lost. After the wound was closed he injected into the collapsed eye normal salt solution with an Anel's syringe. The reaction has been very slight. Not more than the normal reaction after cataract extraction. The lens is in position and is perfectly clear. The fundus is normal in appearance. A very high degree of astigmatism exists with vision reduced to 1/40.

Case 2. Shown by Dr. Wm. C. Bane, of Denver. M. L., aged 4. Seen by Dr. Bane six weeks ago. No history of injury. Patient was brought to his clinic with O. D. inflamed, with a perforation of cornea with a synechia of iris closing it. The cornea was otherwise clear. He has not seen the case again until today. Vision is nil. Cornea universally opaque, vascular and bulging slightly.

Case 3. Shown by Dr. Bane at two previous meetings. Miss A. N., who has extensive macular changes. The question of albuminuric retinitis ,which at previous meetings has been a disputed point, seems now definitely settled in the negative. Dr. Bane has only seen the patient at very irregular intervals. Upon examining her fundus today he discovered two large atrophic choroidal plaques, one above, and the other below the macula, at a distance of some four disc diameters from the macula. These plaques he has never seen before, nor have any of the members of the society seen them. Have they existed and have we overlooked them, or are they new? The central choroidal changes are more marked, and yet the vision has increased to 6/200 from 1/200. She has been taking until recently ¼ gr. protoiodide of mercury t. i. d.

Case 4. Shown by Dr. Edward Jackson, of Denver. K. B., aged 35. This woman has always had poor vision, and it has been growing progressively poorer. She has a younger sister who is similarly affected and is said to have the same fundus lesion. She has no night blindness. Media clear. Retinal vessels small. The whole central portion of fundus has atrophy of choroid, numerous pigment deposits in retina, in and about macular region. These

pigment dashes radiate from the macula. It is a complement of retinitis pigmentosa. Some of the pigment deposits are in front of the retinal vessels and look something like the pigment changes in retinitis pigmentosa. There is no absolute central scotoma and yet her best vision is eccentric and 4/40.

Case 5. Shown by Dr. Jackson. Girl, aged 10. History of swelling of right cheek six weeks ago. Two weeks later the eye on same side became sore. The condition was believed by another oculist to be syphilitic and she was put on inunctions. When first attacked she had fever and vomiting. She has lost in weight. When seen by Dr. Jackson on the 2nd of this month, he found great enlargement of preoricular and cervical glands on right side. Lower lid of O. D. swollen, if anything more than it is now, upper lid droops. Cornea clear. Upon everting lower lid the palpebral conjunctiva and fornix were found extensively covered with round and irregular masses of infiltration somewhat larger than trachoma bodies. Numerous vessels ran in from the periphery. Between these granules was a kind of white necrotic tissue. The whole part presented the appearance of a low grade of inflammation. The palpebral conjunctiva of the upper lid was inflamed, and had a velvety succulent appearance. The secretion was a sticky, flocculent watery discharge, and not very abundant. The appearance tonight is about the same as when he first saw it. Dr. Mitchell was given some of the discharge and some of the scrapings of the necrotic tissue and found two tubercle bacilli. The condition resembles Parinaud's conjunctivitis, but the finding of tubercle bacilli places it under the latter heading. The mother has scars on her neck. The child lately is irritable and he fears tubercular meningitis.

Discussion.—Dr. Jackson thought that Case 2 might have been caused by an injury, and that in children the absence of such history was not uncommon. He also thought it possible that there might be a growth in the back of eye. He thought the atrophic changes in the fundus of Case 3 were new or they would have been seen before.

Dr. A. C. Friedmann, of Colorado Springs, thought in Case 1 that it was too early to prognosticate. That in Case 2 enucleation would be advisable if a growth was strongly suspected. He thought the prognosis to life in Case 5 was very bad.

Dr. Walter Hilliard, of Denver, would suggest in Case 3 large doses of K. I. and plenty of water.

Dr. Stevens thought that in Case 3 since she had tuberculosis

the iodide was contraindicated. He once had a sad lesson in giving K. I. to a tuberculous patient.

Dr. J. A. Patterson, of Colorado Springs, thought that in Case 3 therapeutics would do good. He thought in Case 1 there was danger of sympathetic ophthalmia.

Dr. Melville Black, of Denver, thought in Case 2 that an injury might have caused a corneal lesion that was perforating in the beginning or had become so from ulceration. From the extreme neglect of the child by its parents it is easy to understand how the present condition obtains. He found no reason to suspect a growth in the eye. He thought the atrophic changes in Case 3 were old and that we had overlooked them because they were so far out in the periphery of the fundus. It is evidently not a case of retinitis albuminosa but a choroiditis from unknown cause. He thoguht in Case 1 that owing to absence of cyclitis the eye would not shrink and that danger from sympathetic inflammation was remote; that much credit must be given to the injection of salt solution; that Case 5 was a most instructive case and worth going a long distance to see. He had not before seen a case of tuberculosis of the conjunctiva, and this seemed to be a typical case.

Dr. Geo. F. Libby, of Colorado Springs, thought at once of lupus, and asked if the tuberculin test had been tried.

Dr. Jackson said he had tried to gain the consent of the parents to try the tuberculin test, but the family physician had objected, and that now, fearing tubercular meningitis, it was inadvisable. He thought of trying the x-ray if the physical condition of the patient warranted it. He would have scraped off the granulations before this had it not been for the evidence of tuberculosis of the glands of the neck.

CASES REPORTED.

Dr. J. A. Patterson, of Colorado Springs, showed a piece of steel 1x3x10½ mm. in size that was removed from the eye of a machinist midway between the cornea and caruncle. The foreign body did not pass entirely into the eyeball and was easily removed with forceps, leaving a gaping wound of sclera with escaping vitreous. The wound was closed with a suture. The retina was found detached over a considerable portion of that side of fundus. Healing was uneventful. The retina is now reattached and vision is 5/7.5 —.

Case 2. Widow, aged 68. Consulted Dr. Patterson last June while on a short visit in Colorado en route to California. Her home

is in New York. She had previously consulted an oculist in New York, who corrected her refraction and gave her a sol. pilocarpine to use at night. She complained of colored rings around lights, and had seen them off and on since 1901. Since recently taking a long drive and being fatigued she was aware of a blur of O. D., and persistent colored rings around lights at night. The tension was normal or questionably plus. Pupils, right 3 mm., left 2½ mm. Fundus, no cupping of disc, venus tortuosity and venus pulse. O. D V. 5/7.5. O. S. V. 5/6. Fields normal for white and silghtly contracted for colors. She was given 1 per cent sol. pilocarpine for use at bedtime. This made no change in size of pupils. She was later given a solution of eserine because her subjective symptoms were worse. At this time she went on to California. When she returned to New York she consulted an oculist at Dr. Patterson's earnest solicitation, who wrote a short time ago that vision of O. D. had been practically lost, and that O. S. V. was 20/40. The question is, in the presence of general artero-sclerosis, hyaline casts, and a cardiac murmur, and at her age, would an iridectomy have been justifiable at the time she was under Dr. Patterson's care?

MELVILLE BLACK, Sec'y.

SECTION ON OPHTHALMOLOGY—COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting, January 20, 1903. Dr. William Thomson, chairman, presiding.

Dr. Wm. Campbell Posey exihibted a case of *Conjunctivitis Petrificans,* in a healthy colored female, aged 30. Inflammation had appeared at the age of 12 without known cause, and relapses had occurred at intervals of about three or four months since. The conjunctiva of the lids of both eyes were swollen and injected, and were studded with numerous yellowish-white areas slightly raised above the surface, but beneath the epithelium. The lower fourth of each cornea was superficially infiltrated and vascular. There was no discharge and but slight lachrymation. Ophthalmic examination negative.

Dr. Posey considered this to be an instance of the disease first described by Leber in 1895. He called attention to its rarity and mentioned the changes observed by Leber and described by him so fully in 1900. A detailed report was deferred until later, but suf-

ficient of the tissue was removed to indicate that the spots consisted, as in Leber's case, of carbonates and phosphates of lime. Treatment consisted in the repeated and thorough removal of the masses from the conjunctiva by mechanical measures, and the employment of mild antiseptic lotions and warm compresses.

Discussion.—Dr. Risley called attention to a similar case presented to the Section two years ago, in which the calcareous deposit was much more extensive, and was straw-colored. It was interesting to note that it occurred in a man about 60 years of age, while, as shown by Dr. Posey, the previously reported cases, including the one now exhibited, were young females. Dr. Randall had studied one case, and found that the particles upon removal effervesced with the mineral acids. They were probably similar in structure to the concretions seen in the lachrymal secretions.

Dr. E. S. Saylor reported (by invitation) two cases of *Monocular Blindness following Traumatism.* One, a boy, aged 15, was caught between a mine car and a mule, causing contused and lacerated wounds of head and chest. Blood flowed from the nose, mouth, and left ear, the tissues about the nose were emphysematous, and vomiting continued for 36 hours. Upon admission to the Pennsylvania Hospital, service of Dr. G. C. Harlan, there was found impaired sensation to left side of face, mouth drawn slightly to right, tongue protruded in median line, with loss of taste on left half, and hearing poor in left ear. Examination of the eyes showed, R. E., normal media and eye ground, V = 6/5; L. E., slight ptosis from edema of lids, pupil, 7 mm. and irresponsive, media clear, fundus normal, although some engorgement of retinal veins, especially inferiorly. Rotation of globe limited in all directions. V = uncertain l. p. There was a gradual improvement in vision, and a month after the injury the pupil was 6 mm., optic disc pale and slightly atrophic, and V = 5/45. In the second case, a 32-calibre bullet entered above the inner canthus of the left eye; passed downwards, backwards and slightly outwards, and lodged in the soft tissues back of the left tonsil. Patient unconscious for 7 days. Examination of eyes three weeks after injury showed R. E., normal, L. E., pupil 7 mm. reacts consensually but not to direct stimulation, media clear, color of fundus normal, disc grayish-white in color, with disappearance of arterioles, no motor paralysis of facial or ocular muscles, eye blind. Hearing and taste unaffected. Six weeks afterwards, central V = 5/6; with the eye rotated 30° to the temporal side, 5/5; field contracted to the 30° line. Two years

later, central V = 5/10; with eccentric fixation, 5/6.

Discussion.—Dr. Harlan had examined the first case shortly after the injury, and believed that the blindness was due to fracture of the orbit through the optic foramen. It was difficult to explain the partial return of vision in these cases, except upon the assumption of a small clot which was subsequently absorbed. If extensive hemorrhage occurs, vision would be destroyed.

Dr. Risley thought that the two cases possibly belonged to different groups. In six cases reported by him a few years ago, in all of which blows had been received on some portion of the orbital rim, atrophy of the optic nerve and blindness had followed in from five to eight weeks after the injury. In Dr. Saylor's first case he thought the sudden blindness might be explained by a retro-ocular hemorrhage, the partial restoration of vision following as the clot absorbed; the subsequent atrophy, as in his own cases, being due to the pinching of the optic nerve in the foramen. In the second case he was inclined to ascribe the symptoms to the presence of a blood-clot in the orbit back of the eyeball, the restoration of vision being due to its absorption. The maintenance of good vision, after two years, was incompatible with any theory of permanent injury to the optic nerve. Dr. Shumway referred to a case examined by him six years after a fall upon the head, resulting in loss of consciousness for two weeks and complete blindness. Vision gradually returned, equally 6/6, although nerves were somewhat atrophic, the form field contracted, and color perception confined to the fixation point. Complete deafness on one side with no bone conduction. He believed the symptoms to have followed a hemorrhage at the base, which was subsequently absorbed. Dr. Randall believed that in injuries from concussion or compression the situation of the lesion was often in the cranium and not in the orbit. Hemorrhage into the sheath of the nerve, he thought, should exhibit marked change in the venous circulation of the retina.

Concerning the Tubular Visual Field of Hysteria.—After a brief review of some of the important literature pertaining to the visual fields of hysterical patients. Dr. G. E. de Schweinitz described at some length the observation of Richard Greeff, that under certain circumstances the concentrically contracted field found in hysteric patients maintains the same size, no matter at what distance the point of fixation of the examined eye is placed; in other words, that the field has a tubular character. The hysteric has, to use the term which Greeff has given, a röhrenförmige.

Dr. de Schweinitz, in association with Dr. Shumway, had observed this type of field in several cases of hysteria, and briefly referred to five similar observations which had been made by Dr. William G. Spiller. It may be stated, then, that the most important visual field phenomena found in hysteric patients is concentric contraction of the visual field, often associated with dyschromatopsia and inversion of the color field, together with a tubular character of this field.

Dr. John T. Carpenter reported the clinical history of a case of *Syphilitic Neuro-Retinitis* occurring in the late secondary stage, and marked by a double optic neuritis with the typical stellate figure of albuminuric retinitis around each macula. The diagnosis presented some difficulties, owing to the fact that the specific infection was unsuspected, and the patient, a young boy of 19, who had suffered from acute Bright's disease following scarlet fever in infancy and presented the clinical symptoms of mild chronic nephritis. Under active antisyphilitic treatment, the neuritis disappeared and the retina regained its transparency. The vision was unaffected. The patient, three years after the initial lesion, showed evidences of cerebral syphilis, facial paralysis, slight ptosis and attacks of severe epileptiform convulsions. These attacks were unaccompanied by ophthalmoscopic changes. The interesting point of the case was the onset of bilateral optic neuritis accompanied by the appearance of a stellate figure around the macula, during the late secondary or early tertiary stage of syphilis, both of which disappeared completely under treatment.

Dr. S. D. Risley presented the history of a case of *Delayed Union after Iridectomy* for simple glaucoma in a woman aged 31. The disease had begun in one eye at the age of 19, and in the other a few years later. V — R. E. 1/60; L. E. fingers in the temple field. For twelve years she had suffered almost constant headache with frequent exacerbations of violent pain and dimness of vision, for which eserine and pilocarpine were used. During September and October, 1902, her suffering became more severe, and vision failed rapidly. On October 31st, when first seen by Dr. Risley, the corneæ were steamy, anterior chambers too shallow, pupils medium and fixed, T = R. E. + 1; L. E. +2. As an acute glaucoma seemed imminent an iridectomy was done under general anesthesia on both eyes at one sitting. The operations were without accident, leaving a broad, peripheral coloboma upward in both eyes. The pain in both eyes and head was promptly relieved. There was no

reaction, but at the end of two weeks the wounds, though in perfect apposition, had not closed. Dark masses then appeared in the line of incision in the left eye, and a week later on the right side. These slowly shrank so that at the close of the fifth week the patient was discharged from the hospital with the wounds closed but the anterior chambers obliterated, the iris and lens in both eyes lying in close contact with the cornea. Ten weeks after the operation both wounds were smooth, but showed a dark line the entire length of the section. The iris and lens were still in contact with the cornea in both eyes. T = n, corneæ clear, no pain, field in left unchanged, in the right wider than before operation—very high corneal astigmatism.

WILLIAM M. SWEET, Clerk of Section.

ABSTRACTS.

ABSTRACTS FROM RECENT OPHTHALMIC LITERATURE.

BY G. E. DE SCHWEINITZ, M. D., AND E. A. SHUMWAY, M. D.

Concerning Epiphora as an Initial Symptom of Basedow's Disease.—E. Berger (*Arch. f. Augenheilk,* Nov., 1902) gives the histories of four cases of Basedow's disease, in which epiphora was the initial symptom. Such cases have been reported by other observers, and variously attributed (1) to the wide palpebral fissure, which by the irritating action of the air upon the greater area of exposed eyeball, produces an increased secretion of tears; (2) to the lessened number and incomplete character of the winking motions of the eyelids, which makes the drainage of tears incomplete; (3) to an irritation of the sympathetic, increasing the flow of tears. That the first two theories do not apply in all cases is evidenced by Berger's cases, as in two of them the epiphora was an annoying symptom long before the other signs of the disease appeared, while in the other two, there was neither widening of the palpebral fissure, nor lessening of the lid movements. He believes that the condition is to be considered as a secretion neurosis, and that it is similar to the increased perspiration, to the polyuria, etc. The lachrymal gland is supplied by two nerves—the trifacial (Goldzieher), to which the lachrymation due to psychical emotions is to be ascribed, and by the sympathetic (Demtschenko and others). The secretion of tears called forth by the trifacial, is to be explained as a reflex transference of sensory irritation to the vasomotor fibers of the gland (arising from the sympathetic). The assumption of a vasomotor neurosis for the explanation of the epiphora in Basedow's disease, is in accord with the usual interpretation of a number of the other symptoms as due to the sympathetic. In the treatment of the condition Berger advises constitutional treatment alone, and deprecates the use of sounds and injections of astringent lotions. Extirpation of the palpebral gland is also not to be advised, as a decrease of the tear secretion in the further course of the disease is very frequent, and the annoying feeling of dryness of the eyes would be greatly increased by the operation. In very obstinate cases instillation of cocain in the conjunctival sac, or atropin internally (which decreases the secretion of acinous glands) might

be tried. In the later, dry conditions of the conjunctiva, he has used instillations of physiological salt solution, several times daily, with satisfactory results.

Contribution to the Study of the Differential Diagnosis Between Glioma and Pseudo-glioma Retinæ.—Julius Fejér (*Archiv. f. Augenheilk.;* Nov., 1902) reports an important case illustrating the difficulty in certain cases in making the diagnosis between glioma and pseudo-glioma. In a backward, rhachitic child, of 4 years, examination of the apparently blind left eye showed a yellowish reflex through the pupil, detachment of the retina, with atrophic patches, in places surrounded with pigment scattered over its surface. The eye was free from inflammation, and the tension normal. In the right eye the entire fundus was covered with various sized atrophic areas, involving the choroid and retina. The media on both sides were clear. Three weeks later photophobia and lachrymation began, the pupil was dilated and the tension was found to be increased to +1. Enucleation was advised, as an intraocular growth was suspected. This was refused and the patient taken to Fuchs' in Vienna, who considered "the yellowish white spots in both eyes to be the beginning of a glioma, especially as increased tension has appeared on the left side." The diagnostician not being absolutely sure, he advised waiting, and roborant treatment. After several weeks the eye became softer, and the ciliary injection disappeared, the child grew stronger, and six months later Fuchs thought that there was no longer any danger from tumor. After an observation period of 1½ years the tension was normal, the tumor was atrophic and smaller, and the other patches in the fundus had become paler. The condition of the fellow eye remained the same, except that the yellowish white spots had paled perceptibly. The fact that glioma may begin in the form of white plaques, scattered through the retina, makes the interpretation of such cases difficult. Here, however, the facts that the spots were not elevated, that they were surrounded with a pigment border, which is absent in beginning glioma, that they were diffusely scattered over the fundus, instead of being in groups, and that the retinal vessels passed in an uncurved line over their surface, made the differentiating points. The fact that in the course of 1½ years they had not grown, but had become paler and whiter, made the diagnosis a certain one. Schick reported a similar case in 1900, in which masses of exudate, which he considered fibrinous in character, formed between the choroid and retina, and did not change in the course of 1¾ years.

EDITORIAL.

THE ROLE OF THE TOXINS IN INFLAMMATIONS OF THE EYE.

This is the title of a paper by R. L. Randolph published in the *American Journal of Medical Sciences,* Nov., 1902. It represents a large amount of experimental work of a kind unfortunately rare among American ophthalmologists, and we are glad to see that it has been awarded the Boylston prize. After reviewing the few papers previously published in Europe on the subject, Randolph describes the effects of the toxins of the gonococcus, staphylococcus aureus, the diphtheria, and the colon bacillus when instilled into the conjunctival sac of rabbits; then the results of the same and other toxins when injected under the rabbit's conjunctiva; then the effects of the toxins when injected into the anterior chamber. There is also a brief account of the bacteriology of the rabbit's conjunctiva based upon forty-seven experiments. These show that the normal conjunctiva of the rabbit, like that of man, is probably never sterile and that, as in the case of man, the staphylococcus albus is commonly, if not always, present. We miss, however, any mention of the xerosis bacillus which is so common in the human conjunctival sac and would suggest that these experiments should be repeated with serum as a culture medium instead of agar, as this germ, in the experience of the reviewer, frequently fails entirely to grow upon ordinary agar. The results of the experiments with toxins are summed up as follows: (1) "Bacterial toxins, so far as tested, when instilled even for many hours, into the healthy conjunctival sac were found incapable of causing inflammation or producing other injury. (2) The same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree according to the species of bacterium yielding the toxin. (3) Bacteria which had not previously been proven to produce soluble toxins were found to produce them even in young cultures and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for his purpose. (4) The experiments recorded in this paper furnish additional examples, in a comparatively new field, of the importance of toxins in explain-

ing the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membranes of the eye in favoring the action of toxins and of bacteria."

It should be noted that Randolph's results are opposed to the investigations of Moxax and Elmassian and of Coppez, in so far as they relate to the instillations of toxins into the conjunctival sac, as these observers obtained positive results, the former with the conjunctiva, the latter with the cornea; and in view of the well known immunity of the rabbits' conjunctiva to the action of the germs, ordinarily pathogenic for the human eye, it may well be that more positive results would be obtained on the latter than, where, as in Randolph's work, rabbits alone were used. H. G.

NOTES AND NEWS.

ITEMS FOR THIS DEPARTMENT SHOULD BE SENT TO
DR. BROWN PUSEY, 31 WASHINGTON ST., CHICAGO.

PHOTINOS PANAS,
BORN JANUARY 30, 1832,
DIED JANUARY 6, 1903.

Dr. E. Emmert has been appointed professor of ophthalmology at the University of Berne.

Drs. Henry M. Harrison and Frank T. Brennan have been appointed ophthalmologists to St. Mary's Hospital, Quincy, Ill.

Dr. I. Herrnheiser, formerly editor of the *Prager Med. Wochenschrift* and privat docent of ophthalmology at Prague, died recently in that city.

According to the will of the late Isaac T. Carpenter, upon the death of his sister the New York Eye and Ear Infirmary will receive $1,000.

Over 145,000 copies of Dr. Gould's Medical Dictionaries—The Illustrated, The Student's, The Pocket—have been sold within the past few years.

Dr. Wendell Reber has been appointed to the position of dispensary chief in the German Hospital in Philadelphia, succeeding the late Dr. Edmund K. Perrine.

Dr. Adolf Szili, professor of ophthalmology in the University of Buda-Pesth, has received the honor of hereditary nobility in recognition of his services to public health.

Drs. Swan M. Burnett, D. Kerfoot Shute, William Butler and E. Oliver Belt, have been appointed ophthalmologists to the Government Hospital for the Insane, Washington, D. C.

The post-graduate course to be given the coming spring and summer by the Faculty of the College of Physicians and Surgeons of Baltimore is under the direction of Dr. Harry Friedenwald.

In the February number of the *Popular Science Monthly* Prof. Wesley Mills, of McGill University, in an article entitled The Behavior of Blind Animals, records observations made on blind pigeons, rabbits, rats, cats and a dog.

The Wills Hospital has applied to the Pennsylvania state legislature for financial help. The income from its invested funds has been so materially reduced by the lowering of interest rates, that its utility has been very much impaired.

At the sixth annual reunion and dinner of the Associated Alumni of the Mount Sinai Hospital, New York, addresses were made by Drs. Emil Gruening and Percy Friedenberg. Dr. Edward Friedenberg was elected president for the next year.

In the March and April numbers of THE RECORD Dr. Albert Hale will contribute two articles illustrated, on some of the eye hospitals of Europe, and will conclude in the May number with a description of last year's Heidelberg Congress and a comparison between foreign and American ophthalmology.

The Eye, Ear, Nose and Throat Hospital of New Orleans, La., has purchased a lot in the central part of the city, which will be held as a site for the erection, at some future time, of a new hospital. A central location is desired, so that the hospital will be more accessible for the poor and nearer the medical schools and other hospitals.

It has recently been announced that Sir Ernest Cassel has given the sum of $200,000 for the investigation of ophthalmia and other eye disease among the natives of Egypt. It is intended

to train native medical men in the diagnosis and treatment of diseases of the eye, for only native physicians can induce the poor Egyptians to learn cleanliness.

Dr. de Schweinitz has appointed as assistant surgeons in his service at the University of Pennsylvania: Dr. John T. Carpenter, Dr. Howard Mellor, Dr. A. G. Thomson and Dr. Edward A. Shumway. Dr. Mellor remains chief of the dispensary and Dr. Carpenter is the instructor in ophthalmology. The course has been changed, so that attendance on ward classes and clinics is made obligatory for the whole class, instead of elective, as before.

The will of the late Dr. Bushrod James, of Philadelphia, devises $55,000, several pieces of real estate in that city, and several lots Island Beach, N. J., to the city of Philadelphia for the purpose of establishing a free hospital for the treatment of diseases of the eye and ear. The will directs that the proposed hospital be called the Washington James Eye and Ear Institute, and that the $55,000 be invested as an endowment fund.

At the Ninety-seventh Annual Meeting of the Medical Society of the State of New York, held at Albany, January 27, 28 and 29, the following papers were presented:

Retinoscopy, by Dr. D. H. Wiesner. The Physician and the Ophthalmoscope, by Dr. Francis Valk. Treatment of Purulent Conjunctivitis, by Dr. Edgar S. Thomson. Transportation and the Ophthalmic Referee, by Dr. Justin L. Barnes. Eye Strain and Headache, by Dr. Lucien Howe.

At the Western Ophthalmologic and Oto-Laryngologic Association meeting, to be held in Indianapolis, Ind., April 9, 10, 11, 1903, the following papers will be read in the Ophthalmologic Section: "Episcleritis," by Dr. Adolph Alt; "Keratoconus: Etiology, Early Diagnosis and Treatment," by Dr. J. A. L. Bradfield; "Some Experiences in the Operation for Complicated Cataract," by Dr. J. E. Brown; "Hysterical Amblyopia, with Report of Cases," Dr. A. E. Bulson, Jr.; "Clinical Experiences in the Management of Phoria Patients; Failures and Successes," by Dr. J. Elliot Colburn; "Degenerate Ocular Changes Resulting from Consanguinity of Parents," by Dr. Lee Wallace Dean; "Electro-Cautery Treatment of Wounds and Ulcers," by Dr. John A. Donovan; "Series of Glaucoma Cases,"

by Dr. Geo. F. Fiske; "On Some Points in the Operation for Cicatricial Ectropion," by Dr. Ferd. C. Hotz; "Blepharitis Marginalis," by Dr. Dudley S. Reynolds; "Sarcoma of the Choroid," by Dr. W. S. Samson; "Rare Ocular Lesions in Scarlatina," by Dr. E. O. Sisson; "The Influence of Environment on the Eye," by Dr. Hamilton Stillson; "Paresis and Paralysis of the Muscle of Accommodation," by Dr. Geo. F. Suker; "Monocular Triplopia," by Dr. Cassius W. Wescott; "Retrobulbar Optic Neuritis," by Dr. W. H. Wilder; "Exsection of the Tarsus in Certain Forms of Chronic Trachoma," by Dr. Casey A. Wood.

The Use of Spectacles in the British Army.—It seems, says the *Lancet,* October 25, that we are henceforth to become accustomed to what has hitherto been a rare sight in the army—many spectacled soldiers. From a paragraph in the *Army and Navy Gazette,* October 18th, we learn that it has been proposed to issue spectacles to such soldiers of the British and native troops serving in India as may require them, to correct defects of vision. Medical officers have, our service temporary understands, been called upon to report how many men will require glasses, and the probable cost per annum involved thereby. Meantime, in order to carry out these instructions, the optical means of testing the vision of British and native soldiers in India will presumably have to be issued.—*Medical Record,* January 17, 1903.

Dr. George M. Gould's "Biographic Clinics: The Origin of the Ill-health of DeQuincey, Carlyle, Darwin, Huxley and Browning," of which an advance description was given in the November *Medical Book News,* should excite considerable interest among medical men, for whom, by reason of its originality of research, etc., it possesses especial value and attractiveness. The book is now announced as ready by its publishers, Messrs. P. Blakiston's Son & Co. Its price is one dollar.

Dr. Gould has entered a new and strangely fascinating field. He has gathered from the biographies, letters and writings of DeQuincey, Carlyle, Darwin, Huxley and Browning every reference to their ill-health; and undertakes, scientifically and logically, to enlighten his readers as to the cause of their affliction. This cause, Dr. Gould claims, was the same in each case. To the attending physicians, however, it remained a mystery, no explanation explaining and no cure curing.

It is a peculiar fact that the letters and other writings of De Quincey, et al, liberal as they are with references to the continued ill-health of the quintette of great writers, have not before this suggested to the medical profession an opportunity for research into the causal factors of those physical conditions. That the opportunity has not until now been recognized in its proper light is evidenced by the hitherto total absence of any work dealing with this subject. "Biographic Clinics," should, therefore, prove a most unique and valuable contribution to biographical and medical literature. It is interestingly written, and will undoubtedly meet with a ready sale.—*The Medical Book News,* anuary, 1903.

The trial of the wood alcohol poisoning case in the Baltimore court was the leading medical feature last week. The court refused to admit the analysis of Jamaica ginger made by the drug firm two years after the alleged poisoning. He also refused to take the case from the jury and decide it himself. A former employe of the drug firm testified that the latter used wood alcohol in the preparation of Jamaica ginger from 1897 to 1900, the proportions used being: Wood alcohol, 30 per cent; grain alcohol, 50 per cent; and water, 20 per cent. The attorney for the defense acknowledged that this proportion was correct, and that in the three years 65,376 bottles of the preparation were placed on the market. Drs. Herbert Harlan and Hiram Woods testified that Dr. Brehm's loss of sight was due to wood alcohol. Dr. Chas. A. Crampton, a government chemist employed in the internal revenue department, W. A. Puckner, professor of pharmacy in the University of Illinois, and F. P. Kuehne, a manufacturer of flavoring extracts at St. Louis, testified that wood alcohol, in their opinion was not poisonous.

The Brehm suit continues to excite deep interest. The experts for the defendants have contradicted the statements of the ophthalmologists, and testified that purified wood alcohol or Columbian spirits is no more poisonous than grain alcohol. Frederick T. Gordon, a pharmacist in the navy, testified to having taken one ounce twice a day. He also fed a cat a teaspoonful daily for over a month without harmful results. Dr. E. L. Whitney had taken one and one-half ounces of Columbian spirits in three hours without bad effect. A special feature was the drinking in open court of two ounces of Columbian spirits by Mr. William E. Gilbert, one of the defendants. It was freely diluted with water, and no apparent ill effects were experienced. The counsel began arguing the

case this week.—*Journal of the American Medical Association*, Jan. 31, Feb. 7, and Feb. 14, 1903.

Methyl Alcohol Blindness.—The trial of the suits against a Baltimore drug firm for blindness due to the use of methyl or wood alcohol instead of grain alcohol in the manufacture of essence of Jamaica ginger, began in the superior court, January 22. The first suit for $30,000 was brought by Dr. Geo. A. Brehm, of Rolandville, who claims to have been made entirely blind two days after drinking three bottles of the essence of July 27, 1898. He bought the preparation from a storekeeper on Elliot's Island, Dorchester county, where he then lived. Dr. Reid Hunt and Dr. Henry P. Hynson, druggist and ophthalmologist, testified.—*Journal American Medical Association*, January 31, 1903.

Ophthalmo-Oscillatory Ophthalmotology for Inter-Ocular Diseases.—There lies before us a circular, noteworthy because of a number of qualities, the linguistic and scientific being the chief. As to the last we have this statement:

"The master minds in the field of ophthalmotology, both in Europe and this country, have worked upon the theory that to stimulate the interocular circulation, rebuild the capillaries which become inactive in the interstitial tissues of the nerve papillas of the retina, nutrition would become active and the retina would again respond to the action of light."

It required 20 years for the "gentleman of high medical standing" to devise a couple of little glass cups placed over the eyes whereby the eyes are drawn outward when a vacuum (and no hyphen between those two u's nor any diereses over them!) is created, etc., and the oscillation causes a regular vibration of the optic nerve. Among other "inter-ocular diseases" we are assured that "cortical opacity of the lens is most successfully treated." Also the other inter-ocular diseases, "glaucoma, choroiditis, retinitis, atrophy"—these also "can be cured." "No one discovery since Holtzholm gave the ophthalmoscope to the medical world has ophthalmotology received so valuable a discovery." U. S. Senator Money is said to endorse "this wonderful machine," and several doctors are mentioned as having been cured by it of inter-ocular diseases. Money can do wonders, of course, but we fear it is powerless to change the truths of ophthalmotology and of English grammar. Poor ophthalmotology! and the fame of Holtzholm! and the unprotected patients who are exhilarated!—*American Medicine.*

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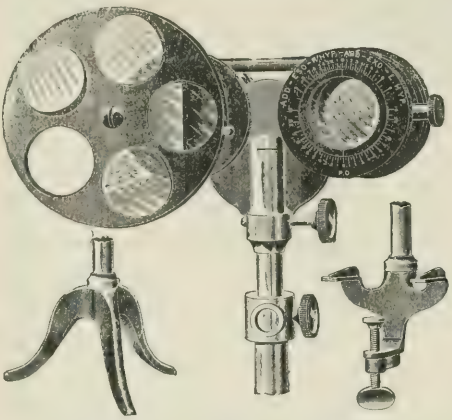

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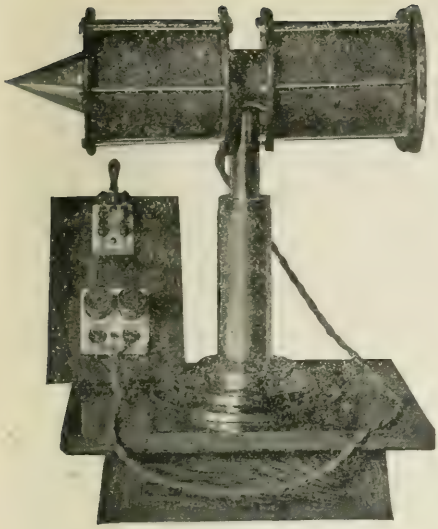

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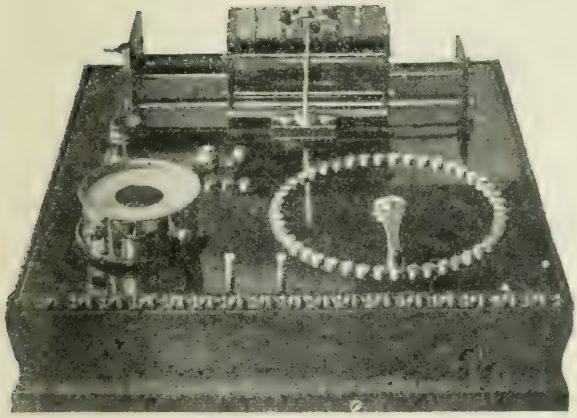

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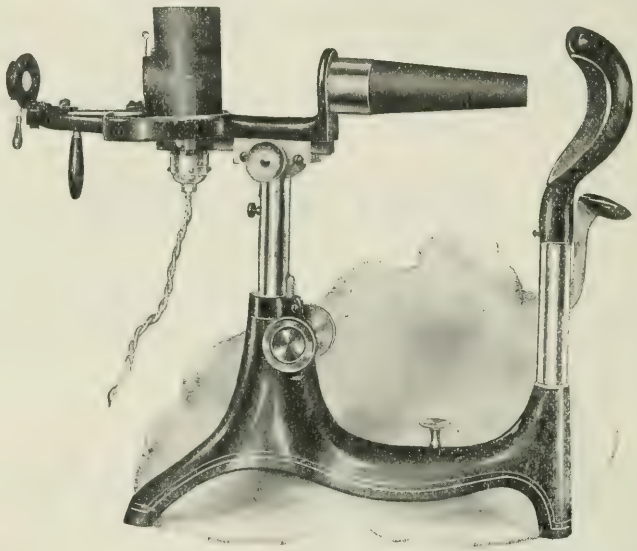

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